Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An optical switching apparatus, comprising:

a plurality of optical input switches;

a plurality of optical output switches;

a plurality of central optical switches connected between the plurality of input switches and plurality of output switches;

a plurality of test light sources, where each test light source is connected to an optical input switch; and

a first plurality of optical detectors connected to the optical output switches.

2. (Original) The optical switching apparatus, as recited in claim 1, wherein each of the plurality of optical input switches has input connections and output connections, and each of the plurality of optical output switches has input connections and output connections, and each of the plurality of central optical switches has input connections and output connections, further comprising:

a first plurality of optical fibers connected between the output connections of the input switches and the input connections of the central optical switches;

a second plurality of optical fibers connected between the output connections of the central optical switches and the optical output switches;

a third plurality of optical fibers connected to the input connections of the optical input switches, wherein each test light source of the plurality of test light sources is connected to an optical fiber of the third plurality of optical fibers; and

a fourth plurality of optical fibers connected to the output connections of the optical output switches, wherein each detector of the first plurality of optical detectors is connected to an optical fiber of the fourth plurality of optical fibers.

3. (Original) The optical switching apparatus, as recited in claim 2, further comprising a second plurality of optical detectors, wherein each optical detector of the second plurality of optical detectors is connected to an optical fiber of the third plurality of optical fibers.

4. (Original) The optical switching apparatus, as recited in claim 3, further comprising a third plurality of optical detectors, wherein each optical detector of the third plurality of optical detectors is connected to an optical fiber of the first plurality of optical fibers.

5. (Original) The optical switching apparatus, as recited in claim 2, wherein each of the plurality of optical input switches is connected to at least eight fibers of the third plurality of fibers.

6. (Previously Presented) The optical switching apparatus, as recited in claim 2, further comprising a controller connected to each of the plurality of optical input switches, wherein the controller determines if one of the plurality of central optical switches is malfunctioning by testing a first plurality of optical paths using the test light sources and by simultaneously testing a second plurality of optical paths using input signals, which are not generated by the test light sources.

7. (Currently Amended) The optical switching apparatus, as recited in claim 1, further comprising a controller connected to each of the plurality of optical input switches, the plurality of optical output switches, the plurality of central optical switches, the plurality of test light sources, and the first plurality of optical detectors, and wherein at least one of the plurality of central optical switches is an active optical switch and at least one of the plurality of central

optical switches is an protection optical switch which acts as a back up for the active optical switch, wherein the controller determines if one of the plurality of central optical switches is malfunctioning, by simultaneously using input signals, which are not generated by the test light sources, to test the active optical switch and the test light sources to test the protection optical switch.

8. (Original) The optical switching apparatus, as recited in 7, further comprising an indicator connected to the controller which indicates if a central optical switch is malfunctioning.

9. (Original) The optical switching apparatus, as recited in claim 1, wherein the plurality of central optical switches comprises an active optical switch and a protection optical switch.

10. (Original) The optical switching apparatus, as recited in claim 1, wherein each optical input switch of the plurality of optical input switches is connected to a test light source.

11. (Original) A method of providing an optical switching apparatus, comprising:

providing a plurality of optical input switches;

providing a plurality of optical output switches;

providing a plurality of central optical switches connected between the plurality of input switches and plurality of output switches;

providing a plurality of test light sources, where each test light source is connected to an optical input switch; and

providing a first plurality of optical detectors connected to the optical output switches.

12. (Original) The method, as recited in claim 11, further comprising providing a controller connected to each of the plurality of optical input switches, the plurality of optical output switches, the plurality of central optical switches, the plurality of test light sources, and the first plurality of optical detectors.

13. (Original) The method, as recited in claim 11, further comprising:

determining if a switch of the plurality of optical input switches, the plurality of optical output switches, and the plurality of central optical switches is malfunctioning; and

if an optical switch is found to be malfunctioning, indicating to a user which optical switch is malfunctioning.

14. (Original) The method, as recited in claim 11, further comprising:

providing a plurality of light signals from the plurality of test light sources;

switching the plurality of light signals down optical paths of the optical switching apparatus; and

determining if the light signals from the test light sources are detected by the first plurality of optical detectors.

15. (Original) The method, as recited in claim 11, further comprising:

providing a first plurality of optical fibers connected between the output connections of the input switches and the input connections of the central optical switches;

providing a second plurality of optical fibers connected between the output connections of the central optical switches and the optical output switches;

providing a third plurality of optical fibers connected to the input connections of the optical input switches, wherein each test light source of the plurality of test light sources is connected to an optical fiber of the third plurality of optical fibers; and

providing a fourth plurality of optical fibers connected to the output connections of the optical output switches, wherein each detector of the first plurality of optical detectors is connected to an optical fiber of the fourth plurality of optical fibers.

16. (Original) The method, as recited in claim 15, further comprising providing a second plurality of optical detectors, wherein each optical detector of the second plurality of optical detectors is connected to an optical fiber of the third plurality of optical fibers.

17. (Original) The method, as recited in claim 11, further comprising:

using the second plurality of optical detectors for detecting input signals, where the input signals are not generated by the test light sources; and

using optical detectors from the first plurality of optical detectors to determine if the input signals are being correctly switched over optical paths, wherein the determining if the input signals are being correctly switched over optical paths is simultaneous with determining if the light signals from the test light sources are detected by the first plurality of optical detectors.

18. (Original) The method, as recited in claim 17, further comprising providing optical paths to avoid the malfunctioning optical switch.

19. (Original) The method, as recited in claim 13, further comprising providing optical paths to avoid the malfunctioning optical switch.